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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,610	03/06/2002	Yutaka Mimino	020124	4961

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EXAMINER

HO, TU TU V

ART UNIT PAPER NUMBER

2818

DATE MAILED: 09/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 10/090,610	Applicant(s) MIMINO ET AL.	
	Examiner Tu-Tu Ho	Art Unit 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1 and 3-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 6 and 7 is/are rejected.
- 7) ☐ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>7</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114.

Applicant's submission filed on 19 June 2003 has been entered.

Claim Rejections

2. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently filed petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(h).

3. The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Claim Rejections - 35 USC § 102

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Shinohara et al. Japanese Patent Application Publication Number 03-077324 (cited by Applicant and hereinafter referred to as publication '324).

Publication '324 discloses in Figures 1-6 a multilayer wiring structure for semiconductor devices as claimed.

Referring to claim 1, the reference discloses a multilayer wiring structure for semiconductor devices, comprising:

a semiconductor substrate 12;

at least one active region 2 (Figure 1) supplied with an electric power from a power-supply potential (not shown);

a plurality of power-supply lines 7x/8x (Figures 1, 3, and 5) for supplying with the electric power to said active region therethrough, said power-supply lines disposed at different layers of the multilayer wiring structure on said semiconductor substrate and being connected in parallel to each other; and

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a common power-supply line 14 (Figures 4-6) provided between said power supply potential and said active region, the common power-supply line being connected to the power-supply lines and having a current-carrying capacity larger than that of each of the power-supply lines.

Referring to claim 3, publication '324 further discloses that at least one power-supply pad 10 (Figure 4) connecting to said power-supply potential, wherein said common power-supply line 14 is provided between said power-supply pad 10 and said power-supply lines 7/8 (Figure 5).

Referring to claim 7, the upper right corner of Figure 4 shows a plurality of power-supply pads 10 connecting in parallel to common power-supply lines 14. Since the plurality of power-supply pads would connect to a same potential and each of the common power-supply lines connects to the power-supply lines, it follows that the plurality of power-supply pads 10 connect in parallel to the power-supply lines, and therefore meets the limitation of "said power-supply lines connect to said power-supply potential by a plurality of power-supply pads connecting in parallel to said power-supply lines". Note that "connecting in parallel" is interpreted broadly as connecting to the same potential (power-supply pads 10 in the upper right corner of Figure 4 of publication '324 would connect to the same potential the same way power-supply pads 9 of Figure 8 of the present invention would connect to the same potential). Note also that in the upper right corner of Figure 4 of publication '324, numerical reference 14 should have been 10.

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The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 6 is rejected under 35 U.S.C. §103(a) as being unpatentable over publication '324.

As noted above, publication '324 discloses that the power-supply lines 7/8 connect to the active region 2 of the at least one active region. Obviously the figures of the publication fail to disclose that said power-supply lines connect in parallel to the active regions as claimed. Nevertheless, at the time the invention was made, it was customary in the semiconductor art, particularly in power transistor design, to parallel active regions of identical transistors to achieve a desired power output. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form, instead of just one active region, active regions 2 and parallel them to achieve a desired power output, and in doing so, one would have connecting in parallel power-supply lines to the active regions.

Allowable Subject Matter

6. Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In the examiner's opinion, it is not obvious to one of ordinary skill in the art at the time the invention was made to modify the prior art of record to have the limitations as recited in these claims.

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Specifically, one would have not formed the common peripheral region power-supply line 14 (publication '324) such that it would be situated between the active region 2 and the power supply lines 7/8. In doing so, the common peripheral region power-supply line would not have been in the peripheral region. And one would not be able to connect both end of the common power-supply line to the power-supply lines since one end of the common power-supply line is already connected to the connection pad and this one end is not in the cell region where the power supply lines are.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu-Tu Ho whose telephone number is (703) 305-0086. The examiner can normally be reached on 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID NELMS can be reached on (703) 308-4910. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.



Tu-Tu Ho
August 13, 2003



HOAI HO
PRIMARY EXAMINER